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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.         | CONFIRMATION NO. |
|---|-------------|----------------------|-----------------------------|------------------|
| 10/810,856  | 03/29/2004  | Ganjiang Feng        | 839-1055                    | 9113             |
| 30024   | 7590        | 06/08/2006           |                             |                  |
| NIXON & VANDERHYE P.C.<br>901 NORTH GLEBE ROAD, 11TH FLOOR<br>ARLINGTON, VA 22203 |             |                      | EXAMINER<br>BALDWIN, GORDON |                  |
|   |             |                      | ART UNIT                    | PAPER NUMBER     |

1775

DATE MAILED: 06/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/810,856

Applicant(s)

FENG ET AL.

Examiner

Gordon R. Baldwin

Art Unit

1775

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 5/19/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20040503.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-5 and 7-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Rigney (Pat. No. 6,153,313).**

**Consider claim 1**, Rigney teaches a bond coating placed under a thermal barrier coating (considered a ceramic layer), which incorporates the use silicon in the bond coat, without having any cobalt in the bond coat. (Col. 6 lines 55-68 and Table I)  
As for the stabilization adherence of the ceramic layer to a bond coating, where the claimed and prior art products are identical or substantially identical in structure or are produced by identical or a substantially identical processes, a prima facie case of either anticipation is considered to have been established over functional limitations that stem from the claimed structure.

**Consider claims 2-5 and 7-14**, Rigney teaches the use of an MCrAlY bond coatings (Col. 1 lines 25-35) that uses Aluminum (30-60 wt %), Chromium (up to 25 wt %), Silicon (0.1-5.0 wt %), Yttrium (up to 1 wt %) and Nickel (balance of approximately 19-63 wt%). (Table 1, Col. 7 lines 1-15)

**Consider claims 15-17**, Rigney teaches gas turbine components with a TBC coating and metallic bond coating (Col.1 lines 25-35) with a Cobalt level of 0 wt % and a Silicon level of 0.1-5.0 wt %. (Table 1, Col. 7 lines 1-15)

**Claims 1, 3-6 and 9-10 and 12-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Kelly (Pat. No. 6,929,868).**

**Consider claim 1**, Kelly teaches a protective layer (44) which overlays a substrate with a ceramic coating over the protective coating (Col. 3 lines 1-8). The protective coating (or bond coating) has a cobalt percentage of 3.1 wt. %. (Col. 4 lines 19-36)

**Consider claims 3-6, 9-10 and 12-16**, Kelly teaches a bonding coat composition for gas turbine engine blades (Col. 3 lines 37-43) that uses of 7.6 wt. % of chromium and 7-12 wt % of aluminum and 0.55 wt. % of silicon and a balance amount of nickel with cobalt in a 3.1 wt % in the bond coating. (Col. 4, lines 20-37)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 11 and 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelly (Pat. No. 6,929,868).**

**Consider claim 17**, Kelly teaches the use of 3.1 wt. % cobalt, while the applicant uses 0-3 wt % in claim 17. Kelly's use of 3.1 wt. % is considered substantially close to that of the instant claim so that one of ordinary skill would have expected compositions that are in such close proportions to those in prior art to be prima facie obvious, and to have same properties (*Titanium Metals Corp.*, 227 USPQ 773 (CA FC 1985)).


***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gordon R. Baldwin whose telephone number is (571)272-5166. The examiner can normally be reached on M-F 7:45-5:15.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GRB

  
JENNIFER C. MCNEIL  
SUPERVISORY PATENT EXAMINER  
6/5/06